DOCUMENT RESUME

ED 249 331 UD 023 845

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TITLE Interracial Contact Opportunities. Effects of Organizational Structure on Communication Patterns in Desegregated Middle Schools.
PUB DATE Apr 84
NOTE 38p.; Paper presented at the annual meeting of the American Educational Research Association (New Orleans, LA, April, 1984). May be marginally legible due to light type.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Intergroup Relations; Intermediate Grades; Junior High Schools; Middle Schools; Peer Relationship; *Racial Relations; *School Organization; Sex Differences; *Teaching Methods; *Verbal Communication

ABSTRACT

This study contrasts interracial communication patterns among students attending two desegregated schools which differed in organizational structure (one was a middle school and one a junior high school). Both schools were similar in size, student socioeconomic profile, and percent of white and black pupils. Multiple analysis of variance indicated that black adolescents attending the junior high school, which used primarily a recitation mode of instruction, had significantly less verbal contact with white classmates than did black students attending the middle school, which used a multi-task format. Moreover, all students attending junior high school, regardless of race or sex, received significantly less verbal contact from classmates than did those students attending the middle school. Organizational structure of the schools was thus found to limit contact within race as well as across race. The unique roles of white and black females in the social structures of their schools were also highlighted by other data. (Author/GC)

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Interracial Contact Opportunities
Effects of Organizational Structure on Communication Patterns in Desegregated Middle Schools*

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Paper presented at the annual meeting of the American Educational Research Association, April 1984, New Orleans.

*We would like to thank Mr. John Dixon and Dr. Hernan Vera for their help with the analyses of the data.

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Abstract

This study contrasts interracial communication patterns among students attending two desegregated middle schools which differed in organizational structure. Both schools were similar in size, SES, and percent of white and black pupils. Multiple analysis of variance indicated that black adolescents attending the school which used primarily a recitation-mode of instruction (Junior High) had significantly less verbal contact with white classmates than did those blacks attending the school which used a multi-task format (Middle School). Moreover, all students attending Junior High, regardless of race or sex, received significantly less verbal contact from classmates than did those students attending Middle School. Organizational structure of schools was thus found to limit contact within race as well as across race. Other data highlight the unique roles of white and black females in the social structures of their schools.

Interracial Contact Opportunities
Effects of Organizational Structure on Communication Patterns in Desegregated Middle Schools

School desegregation has generally been promoted as a mechanism for decreasing racial hostility and raising minority achievement. But research findings have been a mixed bag. Positive, negative and no results all show up with alarming regularity. In an effort to understand what produces these mixed findings a growing number of researchers have begun studying the social dynamics of desegregated schools. Perhaps one of the most frequently used social psychological theories in this effort is "contact theory" as described by Allport (1954). Contact theory maintains that before contact between two differing groups will result in positive attitudes toward each: both groups must possess equal status, the groups must be cooperatively interdependent, and the contact must enjoy the positive support of those in authority. Two other conditions were added by Cook (1969): the situation should encourage acquaintanceship and the behavior of the group in question should contradict stereotypical beliefs. Thus, positive interracial attitudes are developed through experiencing positive interracial contact. Conversely, limited, superficial forms of interracial contact lead to increases in stereotyping and intergroup hostility.

To be truely useful, contact theory should provide us with a tool to examine curriculum and school policies. While research on the impact of classroom and school organization on intergroup behavior is still in its infancy, it is known that there is a higher frequency of cross-race interactions among students in non-tracked programs (Schofield, 1979; Wellisch, Marcus, MacQueen, & Duck, 1976), in relatively open classroom settings (Cohen, 1975), in team-organized schools (Bell-Nathaniel, Damico, & Green, 1980), in those classes which use cooperative task structures (Slavin, 1979) and where teachers purposely assign students of different races to work jointly on projects (Slavin & Madden, 1979). Added to these findings is the growing body of data which indicates that the social climate of a school, including many features which fit contact theory criteria, exerts a powerful influence on student achievement and attitudes, especially among minorities (Brookover, Schweitzer, Schneider, Beady, Flood, & Wisenbaker, 1978; Damico, Bell-Nathaniel & Green, 1981; Damico, Green & Bell-Nathaniel, 1982; Patchen, Hofmann, & Davidson, 1976; Schofield, 1983; Serow & Solomon, 1979; Slavin & Madden, 1979). Unfortunately, many schools fail to take these data into consideration and instead adopt organizational and curricular policies which resegregate students once they enter the building thus guaranteeing minimal contact between whites and blacks

with virtually no opportunity for cross-race friendships to develop. However, if a school does structure its program to provide students with opportunities to experience positive cross-race contact, does it make any difference in the actual behavior of the students? In order to answer this question the present study was designed to contrast interracial communication patterns among students in two desegregated middle schools (grades 6, 7, and 8) which varied in their organizational structure. It was hypothesized that students attending a school which structured opportunities for cross-race contact would engage in more frequent informal communicatiion with members of another race than those students attending a school in which most of the classes were ability grouped.

This study was part of a continuing research project into the impact of school organizational structure on cross-race contact in schools. Previous studies in this series have found the organizational structure of schools to be significantly related to a variety of school climate and interpersonal interaction variables.

Method

Sample

Two middle schools (grades 6, 7, & 8) in the same district in the sou heast were included in this study. Attendance zones for all middle schools in the district had been redrawn in the summer 1979 so that each had 70% white and 30% black students. Additionally, the SES of students attending these two sample schools approximated each other as indicated by number of students on free or reduced lunch programs. Data were collected from all seventh grade students at the school which will be called Junior High (n=345) and those on two teams at the one called Middle School (n=332). This resulted in the sampling of approximately one-third of the student body of each school.

While the two schools were similar in size (slightly over 900 pupils), SES, and percent white and black, they differed dramatically in terms of their organizational structure. One of the schools was a middle schol which incorporated many of the organizational and curriculum features experts (Alexander & George, (1981) outline as components of an exemplary school for early adolescents. Among these features were: an interdisciplinary, multigrade team organization; random assignment of students to a team with which they remained for 3 years; and a strong affective program. In practice, these program components increased the heterogeneity of classroom student populations, reduced the focus on homogeneous grade-level expectations, and increased the time

students and teachers spent together. Consequently, teachers used more multitask, individual and cooperative learning activities and relied less on recitation-mode and competitive instructional formats. Even lunch-time was structured in such a way that students had additional opportunities to interact with each other. This school will be referred to as Middle School.

The other school in the sample, Junior High, was organized along more traditional lines. Students were segregated by grade and their classes in reading, language arts, and math were tracked by ability. Thus, the classrooms in this school were composed of predominantly same-race students with teacher lecture and student recitation being the primary mode of instruction. Additionally, even the policies surrounding lunch-time functioned to inhibit student interactions with those who weren't already friends and in the same classes.

Instruments

Bennett (1979, 1981) has identified four types of climates-of-acceptance within desegregated classrooms. These climates are characterized by differing frequencies of students' verbal initiations to each other plus friendship choices on a sociometric scale. This approach describes patterns within classrooms; however, another dimension of students' experiences with schooling is the climate-of-acceptance which pervades the entire building and thus affects frequency of interactions outside the classroom. While the use of Bennett's instrument to collect frequency of verbal interactions within classrooms has been used in one of the studies on these two schools (Hague & Damico, 1983), caution needs to be exercised in the use of sociometric data. The work of Bernard and Killworth (1973) and Holland and Leinhardt (1973) indicates that the use of sociometric techniques are not an adequate device for describing and analyzing social networks; instructions provided respondents nearly always bias the resulting data toward a very small number of choices. While a sociogram provides data on cliques it may fail to provide information on the links between groups. Since the concern in this present study was not whether blacks and whites were "good" friends but rather did they feel comfortable enough with each other to engage in informal conversations, a sociometric instrument was deemed inappropriate. To overcome the limitations associated with sociometric scales Killworth and Bernard (1974) have developed a method for collecting and analyzing quantity of interactions rather than quality within bounded groups. Their method, termed catij, was slightly modified and used in this study.

Procedures

Briefly, students were provided with an alphabetical listing of all students in their grade (Junior High) or on their team (Team A or Team B) and asked to first circle their own name and then place a check mark in the appropriate column indicating how frequently they talked to every other student. Four choices were available ranging from "I talk to this person a lot" to "I never talk to this person". Seventh grade or team social studies teachers in both schools collected the data after receiving instructions from the researcher. All data were collected during a one week period in April, 1982.

Results

Within schools data were coded for race and sex of respondent and recipient of verbal contact. Table 1 presents a summary of the mean frequency of verbal contact received by the various race/sex categories of students at Middle School and Junior High. The lower the mean the more frequently other students in the school indicated that they talked to these students. Of interest on Table 1 is the high frequency of verbal interaction recorded among Black Females on both teams and at Junior High. They talked to each other much more frequently than did any other group. The only other groups approaching this level of intense intergroup interaction were the White Females and Black Males on Team B. With a few exceptions, most notably the Black Females, the students attending Junior High experienced less verbal contact with their classmates than did those students on either Team A or B at Middle School.

Insert Table 1 About Here

Data were analyzed using a 3 x 2 x 2 (school x race x sex) factorial design. Multivariate analysis of variance (MANOVA) procedures were used to determine differences between schools in communication patterns among students by race and sex. The MANOVA procedure provides a statistical test of the significance of the differnces between the dependent variables as sets (Cooley & Lohnes, 1971). When significant multivariate F's were revealed a series of ANOVA were computed with F levels adjusted for the effects of multiple significance testing within the sample. Since the two teams at Middle School each constituted a bounded group, that is there was no overlap in teachers or students between them, each was treated

statistially as though it were a separate school. MANOVA analysis of data for just the two teams revealed no significant multivariate or univariate F's.

The multivariate analysis revealed significnt Wilks' criterion F's for school (F=6.07, p<.0001), race (F=128.89, p<.0001), sex (F=151.76, p<.0001), school x race (F=8.82, p<.0001), school x sex (F=11.65, p<.0001), and race x sex (F=142.26, p<.0001). The three-way interaction between school, race and sex was not significant. Table 2 provides a summary of the univariate F's derived from the multivariate analysis.

Insert Table 2 About Here

In examining Table 2 it is perhaps easier to indicate which F's weren't significant than those which were. The verbal contact received by White Males was affected by everything except a race x sex interaction. The verbal contact experienced by White Females was affected by everything except interactions between school x race or school x sex. Blacks Males had their verbal contact influenced by everything except a race x sex interaction and Black Females everything except school x race. What Table 2 clearly presents is a picture in which the verbal contact experienced by all students is affected by the school they attend, their race and sex.

While we are examining Table 2, it is important to point out the large size of the F's for the independent variable of sex. While it was consistently large for all classifications of students, it was especially so for the Black Females. Also note that race was particularly important in determining the amount of verbal contact experienced by both black males and females.

In order to better understand the meanings that can be attributed to the univariate F's reported in Table 2, Scheffe' post hoc procedures were used to test the differences between the means of the various groups. These are reported in Tables 3 and 4.

Insert Tables 3 & 4 About Here

Table 3 summarizes the significant Scheffe' comparisons by school of attendance. Note that this table contrasts the mean verbal contact score given by all students within a school, regardless of race or sex, to specific categories of students, i.e, White Males. What is immediately apparent is that all four categories of students attending Junior High received significantly less verbal contact than that experienced by the students attending Middle School. Additionally, there was a significant difference between the females on Teams A and B at Middle School; those on Team A had less verbal contact than those on Team B. Table 4 continues the Scheffe' comparisons by examining the verbal ratings received by students by the race and sex of their raters. The findings here are not surprising. Students indicated that they had more frequent verbal contact with students of the same race or the same sex.

The patterns of significance presented thus far are complex. As a further aid in understanding them another series of MANOVA were run with each controlling for a different independent variable. This permitted an examination of the simple effects controlling for school, race, and then sex. Scheffe' post hoc procedures were again used to test differences between the means, this time by each of the independent variables separately.

The multivariate analysis of variance controlling for school revealed significant Wilks' criterion F's for all three schools. For Middle School Team A the MANOVA's were: race - $F=43.90$, $p<.0001$; sex - $F=50.61$, $p<.0001$; and race x sex - $F=20.56$, $p<.0001$. For Middle School Team B the MANOVA's were: race - $F=48.37$, $p<.0001$; sex - $F=43.76$, $p<.0001$; and race x sex - $F=8.26$, $p<.0001$. And finally for Junior High they were: race - $F=51.85$, $p<.0001$; sex - $F=42.09$, $p<.0001$; and race x sex - $F=11.76$, $p<.0001$. Table 5 presents a summary of the simple effects for these analyses.

Insert Table 5 About Here

Examination of the univariate F's in Table 5 indicates that neither race nor sex accounted for the verbal contact ratings received by Black Males at Middle School Team A. For the other students on this team, race and sex both appeared to be significant in accounting for verbal contact scores. While none of the race x sex interactions on Team B were significant, race and sex alone were significantly related to verbal contact scores. At Junior High sex appears to be the only independent variable significantly related to the verbal scores of the White Males. Showing up as a pattern at this school was a difference in the association of race and verbal contact. Race was not significantly related to the verbal contact scores received by the white students but was very significantly related to the scores received by the blacks. Also showing up under Team B and Junior High was a large sex effect for the Black Females. This is a recurring pattern throughout all of these tables.

Tables 6, 7 and 8 present the Scheffe' analyses calculated to help understand the pattern of simple effects recorded in Table 5.

Insert Tables 6, 7 & 8 About Here

In Table 6 we note that there was no discrepancy between the frequency with which white and black students talked to the White Females or to the Black Males on Team A. Race did make a difference, however, in the frequency ratings received by the White Males and the Black Females. Whites indicated that they talked more frequently to White Males than did the blacks within the Team. Black Females were also the recipients of differential amounts of verbal contact from white and black students on their Team. On Team B (Table 7) we again find that White Females don't experience any significant differences in communication with other students based on race of the other students. All other contrasts were significant. Basically, this means that blacks talk more frequently to other blacks and males talk more frequently to other males than

to females. Table 8 contains no real surprises. White Females, for the third time, are seen to receive comparable amounts of talk from both whites and blacks. Added here is this same phenomenon for the White Males. In other words, blacks didn't indicate that they talked less frequently to whites than to other blacks. However, this behavior was not reciprocated. Both the Black Males and the Black Females received significantly less communication from whites than they did from other blacks. With one exception the pattern of high frequency of high communication within same-sex was also evident at Junior High. Throughout all three of these tables attention should be paid to the size of the difference in verbal contact experienced by the Black Females. This group of students received very little communication from either whites or males.

The multivariate analysis controlling for race found significant multivariate F's for both whites and blacks. For whites significant Wilks' criterion F's were found for school (F=16.36, $p<.0001$), sex (F=131.15, $p<.0001$), and school x sex (F=10.12, $p<.0001$). For blacks the multivariate F's were: school - F=3.19, $p<.0018$; sex - F=46.93, $p<.0001$; and school x sex - F=3.92, $p<.0002$. Table 9 summarizes the univariate F's derived from these analyses.

Insert Table 9 About Here

Both school attended and sex had an effect on the verbal communication scores which whites gave to other students. While this was also generally true for the verbal contact scores given by blacks, it is revealing that the verbal scores received by White Females was not significantly affected by the school or sex of the black students. The univariate F's reveal a very strong school and sex effect on the scores given by whites to other students. The F's which describe the ratings given by blacks to other students are not nearly as high as those given by whites. There is, of course, an exception. It is similar to one we have encountered before. The verbal scores given to Black Females by other blacks was highly affected by the sex of the rater.

Tables 10 and 11 have been developed in an effort to help us understand the communication patterns by sex of student giving the ratings. These two tables contain the Scheffe' comparisons by race of rater.

Insert Tables 10 and 11 About Here

Table 10 looks at the significant comparisons within schools. There were significant differences in the way in which white students rated all categories of students at Junior High. For instance, whites on both Teams A and B indicated that they talked to both Black Males and Black Females significantly more frequently than did whites attending Junior High. Of course, whites also talked more frequently to other whites at the Middle School than did those at Junior High. There were no significant differences among the schools in the frequency with which blacks indicated that they talked to whites. There were school differences, however, in the frequency with which blacks talked to other blacks. Blacks talked to other blacks more frequently at Middle School than at Junior High.

When sex was also taken into account (Table 11), we find that white males talked to other males more frequently than to females; just the reverse was true for females. In this case, sex was more likely to affect verbal interactions than race. This pattern didn't hold for the ratings given by the black students. For them race was more salient than sex. Again we see that black males and females don't differ from each other in their frequency of communication with white females.

And finally, we have a multivariate analysis controlling for sex. As elsewhere we encounter a series of very significant multivariate F's. For males these were: school - $F=5.73$, $p<.0001$; race - $F=41.67$, $p<.0001$; and school x race - $F=6.63$, $p<.0001$. For the females, the multivarite F's were: school - $F=10.61$, $p<.0001$; race - $F=99.67$, $p<.0001$; and school x race - $F=4.91$, $p<.0001$. The univariate analyses of these findings appear in Table 12.

Insert Table 12 About Here

When controlling for "males" we find that race-of-rater is particularly important in the verbal ratings received by the black students. With the exception of "school", the ratings received by White Females do not appear to be significantly affected by the raters having been males. When females were doing the rating, however, a different story appeared. Race was important in the ratings given all students, but especially to Black Females. The school of attendance was also important in structuring the verbal contact experienced by Black Females.

Table 13 contains the signifiant Scheffe' comparisons across schools by the sex of the rater. Both males and females indicated that they talked to all categories of students less often at Junior High than at Middle School.

Insert Tables 13 and 14 About Here

Table 14 compares the mean ratings given to various categories of students by the sex and race of the rater. Again, there were no significant differences between the frequency with which white and black males indicated talking to White Females. In the other three cases, the black males talked to blacks more frequently than did the white males. Also, this table again indicated that females talked to their same-race classmates more than to other-race students. At the same time females also talked more frequently to other females than to males. Note the large difference between the frequency with which white and black females talk to the Black Females. This pattern reflects the high concentration of intergroup communication among the black females which has been commented upon in several places.

In an effort to understand these data better, additional set of analyses was computed. An analysis of variance using a 3x2x2x4 (school x race x sex x racexsex) factorial design with repeated measures on the last factor (BMDP2V statistical program) was used in order to test differences between how students rated others rather than the differences between the ratings they received, which were the focus of the MANOVA analyses.

Insert Table 15 About Here

The repeated measure on race indicates that the school which a student attended, their race, their sex, school x race, school x sex, race x sex, and school x race x sex all affected how they rated students of both races. The same pattern was discovered on the repeated measure for sex. The school attended, race of a student, student sex, schcol x race, school x sex, race x sex, and school x race x sex all significantly affected the verbal contact they had with males and females within their school. When race and sex were combined within the repeated measure we find that school, race, sex, school x race, school x sex, race x sex, and school x race x sex all signifiantly affected the verbal contact students had with the four categories of students: White Males, White Females, Black Males, and Black Females.

Discussion

This study began from a desire to determine whether the organizational structure of a school would affect the frequency with which students talked to other-race classmates. And it does! But, that is too simplistic an answer to do justice to the patterns of behavior which emerged from this study. When differences among the schools (Junior High and Teams A and B in Middle School) were examined, black students at Junior High were found to receive significantly less verbal contact from whites than that experienced by blacks at Middle School. This was true whether the ratings being considered were those given by all students or whether they were the ones which emerged from the analyses controlling in turn for school, race, and sex. Somewhat unexpectedly, blacks at Junior High indicated that they talked to white students with about the same frequency with which they talked to other blacks. Whites, however, did not reciprocate; they indicated that they talked to blacks significantly less often than they did to other whites. With one exception on Team B, this pattern was unique to Junior High. Examination of communication patterns within Junior High does not stop here, for white students were also found to experience less verbal contact with other white classmates than that experienced among whites at Middle School. Not only does the organizational structure of Junior High operate to limit interracial contact, it also limits contact within race group. We may conjecture that

whites at Junior High are not afforded opportunities to meet other whites, much less blacks.

It should be pointed out that there were also some between-team differences in cross-race communication. While these differences were not as consistent as those recorded between Middle School and Junior High, they do serve as a reminder that the internal dynamics within a team need to complement the organizational structure; structure alone cannot guarantee that white and black students will develop talking acquaintanceships.

While many of the above findings have been documented in other types of reseach, one pattern was not anticipated: the role of the white female. Initial analyses had failed to pick up anything distinctive in the way they were responded to within the school. But the Scheffe' analyses when school, race, and sex were each controlled revealed white females to be individuals who were talked to with the same frequency by both whites and blacks, males and females. This finding was confirmed time after time. For instance, on both teams at Middle School and again at Junior High the race of the rater did not significantly affect the rate at which students talked to white females. Blacks students talked to them with the same frequency as did whites. When race was controlled both black males and black females talked equally often to white females. When sex was controlled, there were no significant differences between the frequency with which white and black males talked to white females. It should be stressed that these findings applied only to white females. For all other categories of students, race and sex of rater was always significantly associated with the frequency with which others talked to them. That is, students tended to talk most frequently to those of their own race and sex.

The role of the black female also appears distinctive. Black females, regardless of school, seem to derive almost all of their peer communication from other black females. This pattern is reflected in nearly all of the tables included in this study. For example, the F values for the independent variable of "sex", is consistently high, and this is especially so when it is the ratings given to Black Females that are being considered. Black females talked less frequently to other types of students than did any other group. Moreover, other students don't talk to them either. As a consequence, these females had significantly less communication with the whites in their schools than did the black males. While this was a consistent pattern, the black females at Middle School did have more contact with whites than did those blacks attending Junior High.

A glance back at the two schools included within this study may

help explain these findings. At Junior High ability grouping functioned to limit the number of students with whom any one student would come in contact. At the same time the recitation-mode of instruction which predominated served to decrease opportunities to develop new friendships. Additionally, the school's lunch-time policies failed to provide opportunities for students to engage in informal groupings and develop new friendships. They were required to sit in their seats and not move about the cafeteria until the bell signaling the end of the period rang; they then left the cafeteria and returned to their classes. In contrast, at Middle School the first 35 minutes of the school day were devoted to a class called "Advisor/Advisee" which functioned in many ways like a homeroom. However, these small classes were also charged with providing students with help in dealing with academic and social problems. Also, recall from the earlier description of the two schools that classes at Middle School were not ability grouped and the multitask organization of most rooms fostered more verbal communication among students than that observed at Junior High. Additionally, at lunch time students filed through the cafeteria at 10 minute intervals. Once they had completed eating they went outside where they stood under trees, sat on benches talking, or joined one of the games, like football, which spontaneously began each noon. All of these features combined to provide students at Middle School with opportunities to come into contact with a large number of other students across ability and racial lines. The opportunities afforded the students at Middle School to get to know others showed up in their verbal communication scores. These students knew more other students than did those attending Junior High and were more likely to talk to them. If the fostering of cross-race contact is deemed important, then the structure of a school's curriculum and many of its policies can be used to reach this goal.

Thus, a conclusion to be drawn from this study is that the organizational structure of a school does affect the verbal interactions which students experience. This is true of within race as well as across race verbal contact. In a study of race and culture in a high school Kimball and Wagley (1974) observed:

> When students are working together and interaction is frequent, communication skills which permit interaction across racial lines are developed. These experiences foster integration in the school and point to the importance of an activities program which encourages the kind of bi-racial cooperation that will be encountered in the adult world(p.72).

Since the middle school generally has few extra-curricular activities through which students can learn to interact, structured classroom experiences become important vehicles through which students learn about themselves and others. We know this. We have only to decide that decreasing racial hostility and fostering positive intergroup behaviors are at least as important goals as academic skills development. Somehow these behaviors are getting lost in the rush to have students spend ever larger amounts of time individually engaged with textbooks. There is some doubt that this policy will increase achievement for many students and may actually decrease it for others. Before we adopt new curricular policies, we should carefully examine what we will be getting in return for socially isolating many students within our schools. Two considerations must be addressed in this examination. First, do we consider schools the socialization vehicle for children in our society? If so, structure and management must encourage and guide interpersonal contact in schools from an early age, and must foster positive cognitive and affective social interaction. Second, we lose <u>all</u> influence over young minds which drop out of school in the teenage years. Active advocation of positive interpersonal relationships provides a social setting satisfying to adolescent needs for identity and an approving peer group; if students of many ability levels don't find reasons other than academics for school attachment, they will leave school before realizing their full intellectual potential. It is to all of our advantages to look at school structure as a mechanism for personal/interpersonal development as well as cognitive development.

References

Alexander, W. & George, P. (1981). The exemplary middle school. New York: Holt, Rinehart, & Winston.

Allport, G. (1954). The nature of prejudice. Cambridge, MA: Addison-Wesley.

Bell-Nathaniel, A., Damico, S., & Green, C. (1980, March). I can tell your race by the way you rate your friends. Paper presented at the annual meeting of the Amerian Educational Research Association, Boston.

Bennett, C. (1979, April). Identifying classroom climates of acceptance. Paper presented at the annual meeting of the Amerian Educational Research Association, San Francisco.

Bennett, C. (1981). A study of classroom climate in desegregated schools. The Urban Review, 13, 161-179.

Bernard, H.R. & Killworth, P. (1973). On the social structure of an oceangoing research vessel and other important things. Social Science Research, 2, 145-184.

Brookover, B., Schweitzer, J., Schneider, J., Beady, C., Flood, P., & Wisenbaker, J. (1978). Elementary school social climate and school achievement. American Educational Research Journal, 15, 301-318.

Cohen, E. (1975). The effects of desegregation on race relations. Law and Contemporary Problems, 39, 271-299.

Cook, S. (1969). Motives in conceptual analysis of attitude-related behavior. In W.J. Arnold & I. Levine (Eds.), Nebraska Symposium on Motivation: Vol. 18 (pp. 179-231). Lincoln: University of Nebraska Press.

Cooley, W. & Lohnes, P. (1971). Multivariate data analysis. New York: John Wiley & Sons.

Damico, S., Bell-Nathaniel, A., & Green, C. (1981). Effects of school organizational structure on interracial friendships in middle schools. Journal of Educational Research, 74, 388-393.

Damico, S., Green, C. & Bell-Nathaniel, A. (1982). The impact of school organization on interracial contact among students. Journal of Educational Equity and Leadership, 2, 238-252.

Hague, L. & Damico, S. (1983, April). Defining school space: The creation of relationships. Paper presented at the annual meeting of the American Educational Research Association, Montreal.

Holland, P. & Leinhardt, S. (1973). The structural implications of measurement error in sociometry. Journal of Mathematical Sociology, 3, 85-111.

Killworth, P. & Bernard, H.R. (1974). Catij: A new sociometric and its application to a prison living unit. Human Organization, 33, 335-350.

Kimball, S. & Wagley, C. (1974). Race and culture in community and school. U.S. Office of Education, Department of Health, Education, and Welfare and The National Institute of Education. Washington, D.C.: U.S. Government Printing Office.

Patchen, M., Hoffmann, G., & Davidson, J. (1976). Interracial perceptions among high school students. Sociometry, 39, 341-354.

Schofield, J. (1979). The impact of positively structured contact on intergroup behavior: Does it last under adverse conditions? Social Psychology Quarterly, 42, 280-284.

Schofield, J. (1982). Black and white in school: Trust, tension, or tolerance? New York: Praeger.

Serow, R. & Solomon, D. (1979). Classroom climates and students' intergroup behavior. Journal of Educational Psychology, 71, 669-676.

Slavin, R. (1979). Cooperative learning. The Center for Social Organization of Schools. Baltimore: The Johns Hopkins University.

Slavin, R. & Madden, N. (1979). School practices that improve race relations. Amerian Educational Reserch Journal. 16, 169-180.

Wellisch, J., Marcus, A., MacQueen, A. & Duck, G. (1976). An in-depth study of Emergency School Aid Act (ESAA) schools: 1974-1975. U.S. Office of Education, Department of Health, Education, and Welfare, Santa Monica, CA: Systems Development Corporation.

Table 1

Summary of Mean Frequency of Verbal Contact
Received by Students Across Schools
by Race and Sex of Rater

Frequency of Verbal Contact Received by Different Categories of Students	Mean Frequency of Verbal Contact Given by Type of Student			
	White Males	White Females	Black Males	Black Females
WHITE MALES				
Middle School-A	3.136	3.490	3.381	3.798
Middle School-B	3.086	3.413	3.266	3.652
Junior High	3.475	3.621	3.488	3.677
WHITE FEMALES				
Middle School-A	3.481	3.028	3.342	3.460
Middle School-B	3.341	2.798	3.472	3.214
Junior High	3.602	3.276	3.565	3.471
BLACK MALES				
Middle School-A	3.195	3.342	3.243	3.456
Middle School-B	3.228	3.557	2.650	3.222
Junior High	3.637	3.723	3.169	3.307
BLACK FEMALES				
Middle School-A	3.622	3.333	3.327	2.645
Middle School-B	3.527	3.061	3.124	2.317
Junior High	3.751	3.626	3.295	2.900

*The scale ranged from 1 to 4 with 1 indicating high verbal contact. Thus the higher the mean the lower the rate of verbal contact received.

Table 2

Summary of Analyses of Variance of Verbal Contact Received by School, Race, and Sex of Rater

Source	df	SS	Univariate F	p
WHITE MALES			11.80	.0001
School	2	2.715	9.20	.0001
Race	1	2.621	17.77	.0001
Sex	1	7.997	54.21	.0001
School x Race	2	1.146	3.88	.0213
School x Sex	2	1.008	3.42	.0337
Race x Sex	1	.065	.04	.5072
WHITE FEMALES			10.49	.0001
School	2	4.563	12.01	.0001
Race	1	2.414	12.70	.0004
Sex	1	5.845	30.77	.0001
School x Race	2	.539	1.42	.2431
School x Sex	2	.738	1.94	.1446
Race x Sex	1	2.864	15.08	.0001
BLACK MALES			13.64	.0001
School	2	5.222	14.69	.0001
Race	1	6.484	36.48	.0001
Sex	1	5.314	29.90	.0001
School x Race	2	5.709	16.06	.0001
School x Sex	2	1.661	4.67	.0098
Race x Sex	1	.314	1.77	.1847
BLACK FEMALES			30.34	.0001
School	2	8.616	24.04	.0001
Race	1	16.491	147.83	.0001
Sex	1	18.456	102.99	.0001
School x Race	2	.187	.52	.5943
School x Sex	2	2.257	6.30	.0020
Race x Sex	1	2.436	13.59	.0003

Table 3

Summary of Significant Scheffe' Comparisons
Verbal Contact Received by Students by School of Attendance

School Comparisons	Differences Between Means*
WHITE MALES	
Junior High - Team A	.1756
Junior High - Team B	.2786
WHITE FEMALES	
Junior High - Team A	.1229
Junior High - Team B	.2812
Team A - Team B	.1582
BLACK MALES	
Junior High - Team A	.2529
Junior High - Team B	.2873
BLACK FEMALES	
Junior High - Team A	.1642
Junior High - Team B	.3215
Team A - Team B	.1572

*all comparisons significant at $p<.05$

Table 4

Summary of Scheffe' Comparisons
Verbal Contact Received by Students Across all Schools
by Race and Sex of Rater

Race and Sex of Recipient	Mean Ratings Given by All			Mean Ratings Given by All		
	Whites	Blacks	Difference	Males	Females	Difference
WHITE MALES	3.3952	3.5670	-.1718*	3.3002	3.5985	-.2983*
WHITE FEMALES	3.3016	3.4392	-.1376*	3.4813	3.2122	.2691*
BLACK MALES	3.4835	3.2196	.2639*	3.2931	3.5029	-.2098*
BLACK FEMALES	3.5377	2.9688	.5689*	3.5337	3.1784	.3553*

*p<.05

Table 5

Summary of Simple Effects by School

Source	df	SS	Univariate F	p
		Middle School - Team A		
WHITE MALES			15.89	.0001
Race	1	2.293	15.00	.0002
Sex	1	4.412	29.05	.0001
Race x Sex	1	.029	.19	.6618
WHITE FEMALES			8.89	.0001
Race	1	.647	3.61	.0596
Sex	1	.841	4.70	.0321
Race x Sex	1	.033	.18	.0003
BLACK MALES			2.17	.0934
Race	1	.194	1.04	.3102
Sex	1	.969	5.19	.0241
Race x Sex	1	.033	.18	.6756
BLACK FEMALES			27.66	.0001
Race	1	7.214	40.26	.0001
Sex	1	7.063	39.42	.0001
Race x Sex	1	1.154	6.44	.0124

Table 5 continued on next page

Table 5, continued.

Source	df	SS	Univariate F	p
		Middle School - Team B		
WHITE MALES			6.52	.0005
Race	1	.925	4.15	.0441
Sex	1	2.675	12.01	.0008
Race x Sex	1	.018	.08	.7773
WHITE FEMALES			8.31	.0001
Race	1	1.576	5.37	.0225
Sex	1	3.378	11.51	.0010
Race x Sex	1	.427	1.45	.2305
BLACK MALES			11.27	.0001
Race	1	4.422	18.05	.0001
Sex	1	4.261	17.39	.0001
Race x Sex	1	.307	1.25	.2656
BLACK FEMALES			22.76	.0001
Race	1	6.934	27.73	.0001
Sex	1	8.545	34.17	.0001
Race x Sex	1	.613	2.45	.1203

Table 5 continued on next page

Table 5 continued.

Source	df	SS	Univariate F	p
		Junior High		
WHITE MALES			4.44	.0050
Race	1	.053	.50	.4812
Sex	1	1.249	11.85	.0007
Race x Sex	1	.020	.19	.6598
WHITE FEMALES			9.66	.0001
Race	1	.277	1.93	.1658
Sex	1	1.945	13.56	.0003
Race x Sex	1	.600	4.18	.0421
BLACK MALES			22.10	.0001
Race	1	8.623	62.72	.0001
Sex	1	.555	4.04	.0458
Race x Sex	1	.031	.22	.6367
BLACK FEMALES			47.33	.0001
Race	1	15.449	108.24	.0001
Sex	1	2.975	20.85	.0001
Race x Sex	1	.806	5.65	.0184

Table 6

Summary of Scheffe' Comparisons of Verbal Contact Received by Students on Middle School Team A by Race and Sex of Rater

Race and Sex of Recipient	Mean Ratings Given by Whites	Blacks	Difference	Mean Ratings Given by Males	Females	Difference
WHITE MALES	3.2872	3.5850	-.2978*	3.2174	3.6097	-.3923*
WHITE FEMALES	3.2866	3.4001	-.1135NS	3.4347	3.1963	.2384*
BLACK MALES	3.2581	3.3468	-.0887NS	3.2110	3.3863	-.1753*
BLACK FEMALES	3.4980	2.9935	.5045*	3.5239	3.0645	.4594*

*p<.05

Table 7

Summary of Scheffe' Compaisons of Verbal Contact Recieved
by Students on Middle School Team B
by Race and Sex of Rater

Race and Sex of Recipient	Mean Ratings Given by Whites	Blacks	Difference	Mean Ratings Given by Males	Females	Difference
WHITE MALES	3.2270	3.4658	-.2388*	3.1290	3.4863	-.3573*
WHITE FEMALES	3.1070	3.3382	-.2312NS	3.3716	2.9252	.4464*
BLACK MALES	3.3698	2.9445	.4253*	3.0909	3.4538	-.3629*
BLACK FEMALES	3.3262	2.7064	.6198*	3.4312	2.8330	.5982*

*p<.05

Table 8

Summary of Scheffe' Comparisons of Verbal Contact Received
By Students at Junior High
by Race and Sex of Rater

Race and Sex of Recipient	Mean Ratings Given by Whites	Blacks	Difference	Mean Ratings Given by Males	Females	Difference
WHITE MALES	3.5560	3.5981	-.0421NS	3.4788	3.6402	-.1614*
WHITE FEMALES	3.4213	3.5104	-.0891NS	3.5904	3.3415	.2289*
BLACK MALES	3.6843	3.2494	.4349*	3.4912	3.5829	.1083NS
BLACK FEMALES	3.6818	3.0651	.6167*	3.6088	3.3822	.2266*

*p<.05

Table 9

Summary of Simple Effects
by Race of Rater

Source	df	SS	Univariate F	p
		White Students		
WHITE MALES			17.67	.0001
School	2	5.384	19.50	.0001
Sex	1	5.296	38.36	.0001
School x Sex	2	.705	2.55	.0795
WHITE FEMALES			21.42	.0001
School	2	6.924	19.95	.0001
Sex	1	13.514	77.86	.0001
School x Sex	2	.615	1.77	.1717
BLACK MALES			19.00	.0001
School	2	9.709	33.71	.0001
Sex	1	2.437	16.92	.0001
School x Sex	2	.743	2.58	.0774
BLACK FEMALES			19.16	.0001
School	2	8.002	29.46	.0001
Sex	1	5.986	44.07	.0001
School x Sex	2	1.472	5.42	.0049

Table 9 continued on next page

Table 9 continued.

Source	df	SS	Univariate F	p
		Black Students		
WHITE MALES			4.86	.0005
School	2	.368	1.10	.3369
Sex	1	3.456	20.58	.0001
School x Sex	2	.410	1.22	.2979
WHITE FEMALES			1.33	.2560
School	2	.740	1.64	.1972
Sex	1	.191	.85	.3586
School x Sex	2	.673	1.49	.2282
BLACK MALES			4.96	.0004
School	2	3.155	6.30	.0024
Sex	1	2.986	11.92	.0007
School x Sex	2	.961	1.92	.1507
BLACK FEMALES			11.26	.0001
School	2	2.853	5.23	.0065
Sex	1	12.474	45.71	.0001
School x Sex	2	1.057	1.94	.1480

Table 10

Summary of Significant Scheffe' Comparisons
Verbal Contact Received by School of Attendance
by Race of Rater

School Comparisons	Difference Between the Means*	
	Whites' Ratings of Students	Blacks' Ratings of Students
WHITE MALES		
Junior High - Team A	.2688	NS
Junior High - Team B	.3290	NS
WHITE FEMALES		
Junior High - Team B	.3142	NS
Team A - Team B	.1796	NS
BLACK MALES		
Junior High - Team A	.4262	NS
Junior High - Team B	.3146	.3049
Team A - Team B	NS	.4023
BLACK FEMALES		
Junior High - Team A	.1838	NS
Junior High - Team B	.3556	.3587
Team A - Team B	.1718	NS

* all comparisons significant at $p<.05$

Table 11

Summary of Scheffe' Comparisons of Verbal Contact Received by Males and Females by Race of Rater

Race and Sex of Recipient	Mean Ratings Given By White Students			Mean Ratings Given By Black Students		
	Males	Females	Difference	Males	Females	Difference
WHITE MALES	3.2569	3.5410	-.2841*	3.4020	3.7084	-.3064*
WHITE FEMALES	3.4886	3.1044	.3842*	3.4641	3.4179	.0462NS
BLACK MALES	3.3814	3.5911	-.2097*	3.0855	3.3345	-.2490*
BLACK FEMALES	3.6459	3.4236	.2223*	3.2704	2.7103	.5601*

*p<.05

Table 12

Summary of Simple Effects
by Sex of Rater

Source	df	SS	Univariate F	p
		Females		
WHITE MALES			6.48	.0001
School	2	.437	2.50	.0846
Race	1	1.764	20.18	.0001
School x Race	2	.652	3.73	.0256
WHITE FEMALES			13.85	.0001
School	2	4.040	12.26	.0001
Race	1	5.294	32.12	.0001
School x Race	2	.666	2.02	.1352
BLACK MALES			10.90	.0001
School	2	.732	2.66	.0720
Race	1	1.982	14.42	.0002
School x Race	2	2.642	9.61	.0001
BLACK FEMALES			42.38	.0001
School	2	10.291	29.09	.0001
Race	1	22.607	127.83	.0001
School x Race	2	.022	.06	.9405

Table 12 continued on next page

Table 12 continued.

Source	df	SS	Univariate F	p
		Males		
WHITE MALES			6.15	.0001
School	2	3.102	7.44	.0008
Race	1	.926	4.44	.0363
School x Race	2	.505	1.21	.3001
WHITE FEMALES			2.28	.0476
School	2	1.355	3.15	.0451
Race	1	.010	.04	.8330
School x Race	2	.466	1.08	.3410
BLACK MALES			13.06	.0001
School	2	5.933	13.58	.0001
Race	1	4.801	21.97	.0001
School x Race	2	3.295	7.54	.0007
BLACK FEMALES			9.11	.0001
School	2	1.092	3.01	.0516
Race	1	6.399	35.24	.0001
School x Race	2	.231	.64	.5302

Table 13

Summary of Significant Scheffe' Comparisons
Between Schools of Attendance
by Sex of Rater

School Comparisons	Difference Between the Means*	
	Males' Ratings of Students	Females' Ratings of Students
WHITE MALES		
Junior High - Team A	.2615	NS
Junior High - Team B	.3499	.1539
WHITE FEMALES		
Junior High - Team B	.2187	.4163
Team A - Team B	NS	.2710
BLACK MALES		
Junior High - Team A	.2803	.1966
Junior High - Team B	.4004	NS
BLACK FEMALES		
Junior High - Team A	NS	.3177
Junior High - Team B	.1776	.5493
Team A - Team B	NS	.2316

*all comparisons significant at $p<.05$

Table 14

Summary of Scheffe' Comparisons of Verbal Contact Received by White and Black Students by Sex of Rater

Race and Sex of Recipient	Mean Ratings Given By Males			Mean Ratings Given By Females		
	Whites	Blacks	Difference	Whites	Blacks	Difference
WHITE MALES	3.2569	3.4020	-.1451*	3.5410	3.7084	-.1674*
WHITE FEMALES	3.4886	3.4641	.0245NS	3.1044	3.4179	-.3135*
BLACK MALES	3.3814	3.0855	.2959*	3.5911	3.3345	.2566*
BLACK FEMALES	3.6459	3.2704	.3755*	3.4236	2.7103	.7133*

*p<.05

Table 15

Summary, Analysis of Variance with Repeated Measures

Source	df	SS	F	p
RACE	-	--	100.19	.0001
Race x School	2	.565	4.36	.0134
Race x Race	1	29.516	455.42	.0001
Race x Sex	1	1.441	22.24	.0001
Race x School x	-	--	--	--
Race	2	1.434	11.06	.0001
Race x School x	-	--	--	--
Sex	2	.850	6.56	.0016
Race x Race x	-	--	--	--
Race	1	2.173	33.53	.0001
Race x School x	-	--	--	--
Rate x Sex	2	.302	2.33	.0985
SEX	-	--	68.38	.0001
Sex x School	2	.332	2.71	.0678
Sex x Race	1	1.777	29.03	.0001
Sex x Sex	1	35.087	573.28	.0001
Sex x School x	-	--	--	--
Race	2	1.942	15.87	.0001
Sex x School x	-	--	--	--
Sex	2	4.336	35.42	.0001
Sex x Race x Sex	1	.116	1.91	.1680
Sex x School x	-	--	--	--
Race x Sex	2	.127	1.04	.3542
RACE AND SEX	-	--	1.33	.2498
Race&Sex x	-	--	--	--
School	2	.037	.72	.4864
Race&Sex x Race	1	1.607	63.50	.0001
Race&Sex x Sex	1	.460	18.16	.0001
Race&Sex x	-	--	--	--
School x Race	2	.327	6.47	.0017
Race&Sex x	-	--	--	--
School x Race	2	.404	7.98	.0004
Race&Sex x Race	-	--	--	--
x Sex	1	3.165	125.09	.0001
Race&Sex x School	-	--	--	--
x Race x Sex	2	.244	4.82	.0085